REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action dated April 25, 2008 are respectfully requested. The applicant has cancelled claims 10 and 13 without prejudice in an effort to expedite issuance of a patent. Claims 6, 11, 12, and 19 had previously been cancelled. Claims 1, 3-5, 7-9, 14, and 22-24 have been amended. No new matter has been added. Claims 1-5, 7-9, 14-18, and 22-24 are currently pending in this application.

The applicant amended some of the claims to more clearly emphasize the present invention for the sole purpose of expediting issue of a patent, but reserves the right to reintroduce the original claims at a later date or in a later continuation.

Objections to the specification

The disclosure has been objected to by the examiner for the following informalities:

The phrase "is need for" on page 8, line 22.

The phrase "as to creating a vector" on page 8, line 31.

The applicant has amended the disclosure in accordance with the examiner's remarks.

The use of trademarks has been noted, and the applicant has capitalized trademarks in this application, as requested by the examiner.

The specification has been objected to as failing to provide proper antecedent basis for the claimed subject matter.

Claim 9 has been amended to incorporate language supported by the specification.

Claim 10 has been cancelled without prejudice.

Rejections under 35 U.S.C. §112, first paragraph

The Examiner has rejected Claims 9 and 10 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement.

The applicant has amended claim 9 to comply with the enablement requirement. Support for this claim can be found in paragraph 22. Claim 10 has been cancelled without prejudice.

Rejections under 35 U.S.C. §112, second paragraph

1. The Examiner has rejected claims 1-5, 7-10, 13-15, and 22-24 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 has been rejected as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections.

The applicant has changed "a tracking means for sensing movements" to "movement sensing means".

Claim 2 is dependent upon claim 1, and should be allowed for at least the same reasons as claim 1.

Claim 3 has been rejected as having insufficient antecedent basis for this limitation in the claim. The applicant has amended claim 3 to provide antecedent basis.

Claim 4 has been rejected as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. Claim 4 has been amended, and the applicant respectfully requests the rejection to be withdrawn.

Claim 5 has been rejected as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. Claim 5 has been amended, and the applicant respectfully requests the rejection to be withdrawn.

Claim 7 has been rejected as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. The applicant has amended claim 7 to clarify that the angle in claim 7 is the same angle as the angle recited in claim 24.

Claim 14 is dependent upon claim 24, and should be allowed for at least the same reasons as claim 24.

Claim 15 is dependent upon claim 14, and should be allowed for at least the same reasons as claim 14.

Claim 22 has been rejected as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. Claim 22 has been amended, and the applicant respectfully requests the rejection to be withdrawn.

Claim 23 has been rejected as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. Claim 23 has been amended, and the applicant respectfully requests the rejection to be withdrawn.

Claim 24 has been rejected as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. "an angle" in line 3 and "said angle" in line 4 reflects that there is a single identical angle being claimed.

Rejections under 35 U.S.C. §102

1. The Examiner rejected claims 1-3, 5, 8, 13-15, and 22-24 under 35 U.S.C. §102(a) as being anticipated by the Applicant's Admitted Prior Art (AAPA). This rejection is respectfully traversed for the following reasons.

A. The Prior Art

The Applicant's Admitted Prior Art discloses a personal digital assistant. See Fig. 2. Admitted Prior Art discloses that some of the accelerometers must be mounted perpendicular to the circuit board. See paragraph 5. Admitted Prior Art teaches multiple orthogonal accelerometers such as a network of two or three accelerometers. See Fig. 4; paragraph 24.

Admitted Prior Art discloses that three accelerometers are required for the X, Y, and Z directions. See paragraph 5. The Admitted Prior Art does not teach a single accelerometer mounted at a non-perpendicular angle to detect acceleration in more than one plane of motion.

B. The Prior Art Distinguished

To anticipate a claim, the prior art reference must teach every element of the claim. MPEP 2131.

Amended Claim 1 includes the language: "wherein the movement sensing means contains a single accelerometer chip". The Admitted Prior Art discloses that "some of the accelerometers must be mounted perpendicular to the circuit board". Therefore, the Admitted Prior Art discloses multiple accelerometers. Since the prior art discloses multiple accelerometers to detect acceleration in multiple planes, the prior art does not teach each and every element of claim 1. Therefore, claim 1 is allowable over the prior art.

Claims 2, 3, and 5, which depend from claim 1, are allowable for at least the same reasons as claim 1.

Amended claim 8, which depends from claim 22, is allowable for at least the same reasons as claim 22.

Claims 13-15, which depend from claim 24, are allowable for at least the same reasons as claim 24, discussed later.

Amended claim 22 includes the language: "a single accelerometer mounted to the circuit board at non-perpendicular angles with respect to each of X, Y, and Z axes." The Admitted Prior Art does not teach non-perpendicular angles, with respect to the X, Y, and Z axes, at which a single accelerometer is mounted to the circuit board. Rather, the Admitted Prior Art teaches an arrangement, in which "each accelerometer is mounted so that the force sensitive axis of the accelerometer is parallel to an axis of the coordinate system (e.g., the X axis)" (page 1, lines 29-31). Claim 22 is therefore allowable over the Admitted Prior Art.

Claim 23, which depends from claim 22, is allowable for at least the same reason as claim 22.

Claim 24 includes the language: "mounting a single accelerometer chip on a circuit board at an angle". The Admitted Prior Art does not teach the use of a single accelerometer, but rather teaches the use of multiple accelerometers. Therefore, claim 24 is allowable over the Admitted Prior Art.

2. The Examiner rejected claims 1-3, 14, 15, and 22-24 under 35 U.S.C. §102(e) as being anticipated by Darley et al (US 6,122,340 A).

A. The Prior Art

Darley et al discloses a motion-sensing device including a circuit board and an accelerometer. An acceleration-sensing axis of this accelerometer is oriented to be substantially parallel to the bottom of a shoe that the accelerometer is secured to. After careful study of the teachings of the Darley et al. reference, the applicant has found no teaching of an accelerometer, with one force sensitive axis, sensing multi-planar motion. Darley et al describe, at col. 9, lines 21-25, "how an accelerometer having at least two orthogonal acceleration-sensing axes may be used to measure the acceleration in a direction other than the directions in which the acceleration-sensing axes are oriented." An 'acceleration-sensing axis' is called a 'force sensitive axis' in the current disclosure.

B. The Prior Art Distinguished

Amended Claim 1 includes the language: "a movement sensing means for sensing movements of the device in more than one plane of motion wherein the movement sensing means contains a single accelerometer chip, having one force sensitive axis, mounted at a non-perpendicular angle with respect to the circuit board." Darley et al do not teach a movement sensing means containing a single force sensitive axis for sensing movement of a device in more than one plane of motion. Rather, Darley et al disclose the use of at least two force sensitive axes to measure motion in more than one plane of motion.

Therefore claim 1 is allowable over the prior art.

The current disclosure describes an accelerometer chip being used to sense motion in multiple planes of motion. The accelerometer is described in more detail in the background section as stated on page 8, lines 19-24, wherein "each accelerometer is mounted so that ***the*** force sensitive axis of the accelerometer is parallel to an axis of the coordinate system" (see page 1, lines 29-30. Emphasis added). Therefore, there is sufficient support for the language describing an accelerometer chip having one force sensitive axis.

Claims 2 and 3, which depend from claim 1, are allowable for at least the same reasons as claim 1.

Claims 14 and 15, which depend from claim 24, are allowable for at least the same reasons as claim 24, discussed later.

Amended claim 22 includes the language: "a single accelerometer mounted to the circuit board at non-perpendicular angles with respect to each of X, Y, and Z angles." Darley et al only disclose an angle between the circuit board and the accelerometer, but do not disclose non-perpendicular angles with respect to all three axes.

Therefore, claim 22 is allowable over the prior art.

Amended claim 24 includes the language: "a single accelerometer chip on the circuit board at an angle, said accelerometer chip having one force sensitive axis... wherein the accelerometer chip senses movements in more than one plane of motion." Darley et al teach "how an accelerometer having at least two orthogonal acceleration-sensing axes may be used to measure the acceleration in a direction other than the direction in which the acceleration-sensing axes are oriented", whereas in the current disclosure, an accelerometer with a single acceleration-sensing axis to measure acceleration in more than one plane of motion is employed.

Rejections under 35 U.S.C. §103

1. The Examiner rejected claims 4, 7, 9, and 10 under 35 U.S.C. §103(a) as being unpatentable over Applicant's Admitted Prior Art (the AAPA) in view of Svancarek et al (6,249,274 B1). This rejection is respectfully traversed for the following reasons.

A. The Prior Art

Svancarek et al. disclose a computer input device having inclination sensors. An inclination sensor is disposed to detect inclination of the user input device. After careful study of the teachings of the Svancarek et al. reference, the applicant has found no teaching of an accelerometer sensing multi-planar motion. Rather, Svancarek et al. teach multiple accelerometers for sensing multi-planar motion. See Col. 6, lines 27-33.

B. The Prior Art Distinguished

Claim 4, which depends from claim 1, is allowable for at least the same reasons as claim 1. Claims 7 and 9, which depend from claim 24, are allowable for at least the same reasons as claim 24.

The applicant respectfully requests the Examiner withdraw the rejections of claims 4, 7, and 9.

Claim 10 has been cancelled without prejudice.

2. The Examiner rejected claims 4, 7, 8, and 13 under 35 U.S.C. §103(a) as being unpatentable over Darley et al (US 6,122,340 A). This rejection is respectfully traversed for the following reasons.

Claims 4 and 7 are dependent upon claims 1 and 24 respectively. Claims 4 and 7 are therefore allowable for at least the same reasons as claims 1 and 24 respectively.

Darley et al disclose an accelerometer having at least two orthogonal acceleration axes to measure the acceleration in multiple directions (Fig. 8; Column 9, Lines 21-44). Amended claim 8 includes the language: "the accelerometer chip senses acceleration in a plurality of non-parallel planes of motion". The accelerometer chip relates to claim 24, which discloses a single acceleration-sensing axis being employed. However, Darley et al disclose at least two acceleration-sensing axes being used to detect motion in more than one plane of motion. Therefore claim 8 is allowable. Claim 13 is allowable for at least the same reasons.

3. The Examiner rejected Claims 5, 9, and 10 under 35 U.S.C. §103(a) as being unpatentable over Darley et al (US 6,122,340 A) in view of DeLorme et al (US 5,848,373). This rejection is respectfully traversed for the following reasons.

Claim 5, which depends from claim 1, is allowable for at least the same reasons as claim 1. Claims 9, which depends from claim 24, is allowable for at least the same reasons as claim 24.

Claim 10 has been cancelled without prejudice.

Conclusion

If the Examiner believes that a conference would be of value in expediting the prosecution of this application, he is cordially invited to telephone the undersigned counsel at (650) 838-4441 to arrange for such a conference. No fees are believed to be due; however, the Commissioner is authorized to charge any underpayment in fees to Deposit Account No. 50-2207.

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Respectfully submitted,

By_____

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